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Health care reform in the United States is likely to fail without fundamental changes in the practice of medicine. What can be done within a year to substantially increase the likelihood that Americans receive appropriate, humane, affordable care? A starting point is to draw on more than 2 decades of empirical research based on the RAND/University of California Los Angeles (UCLA) Appropriateness Method (RUAM) to develop explicit criteria for determining the appropriateness of care.[1,2] Physicians and patients can use the results from applying this method to make better informed decisions about expensive, elective procedures or diagnostic tests, and the process of developing the criteria will strengthen the clinical evidence base.

The RUAM was developed more than 20 years ago in an effort to understand why quality of care in the United States, and in other developed countries, varied so substantially. The method uses a structured process for integrating findings from the scientific literature with clinical judgment to produce explicit criteria for determining the appropriateness of specific procedures.[1,2] The criteria are used to determine if care is necessary (the care produces substantially more health benefit than harm and is preferred over other available options), appropriate (produces more good than harm by a sufficiently wide margin to justify the use of the procedure), equivocal (potential health benefits and harms are about equal), or inappropriate (health risks are likely to exceed health benefits).

The RUAM has been used in research studies around the world, including England, Canada, Switzerland, the Netherlands, and Israel. This approach has been used to judge the appropriateness of a wide range of procedures, including bariatric surgery, coronary artery bypass graft surgery, angioplasty, colonoscopy, endoscopy, hysterectomy, prostatectomy, and tympanostomy, and has identified a large proportion of care as not necessary or appropriate (in some cases >50%).[3-9] The RUAM also has been used to identify underuse, patients for whom the procedure is necessary but to whom the procedure has not been offered by their physician.[10]

The goal of this work was not just to produce research results; it was intended to alter the way medicine is practiced. However, the only major nonresearch users became the insurance industry, which was looking for an evidence-based method to review appropriateness, but having industry review appropriateness alienated physicians because they felt their clinical autonomy and judgment were threatened.

Times have changed and medical leaders are calling for greater accountability, especially in appropriateness of care. Using the existing appropriateness method as a foundation, the medical profession could begin guaranteeing Americans that an explicit assessment of appropriateness would be performed for at least 50 expensive, elective procedures or diagnostic tests, and that both patients and physicians would be an integral part of that process.

How might such a system work? The 50 sets of appropriateness criteria could be established on a national basis by 5 to 10 nonprofit organizations that have the requisite expertise, all using the RUAM. Doing this, and making associated improvements as the science of quality assessment evolves, would require about $100 million per year, most likely from federal sources. A coordinating center could ensure the consistency, quality, and timeliness of the work across these organizations. The initiative could also develop Web-accessible forms to produce appropriateness ratings for individual patients by following 8 steps: (1) select a procedure; (2) perform a literature review that includes information about use, efficacy, effectiveness, benefit, and risk for specific subgroups of patients; (3) develop an exhaustive and comprehensive set of clinical scenarios that describe both appropriate and inappropriate use of the procedure (scenarios may vary from <100 to >2000 per procedure); (4) select a multidisciplinary panel of 9 physicians to rate scenarios, after they read the literature review, on a scale of 1 to 9 (physicians who do not perform the procedure comprise a majority of the panel); (5) convene panel to discuss, modify, and rate the scenarios; (6) develop an efficient Web-based form that quickly but reliably allows the patient and physician to work together to determine the appropriateness score that is applicable to the specific patient; (7) use score to decide what to do next; and (8) con-

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tinuously update literature review, clinical scenarios, and appropriateness ratings to keep them current with scientific progress.

Consider how an appropriateness assessment might work for a procedure such as carotid endarterectomy. Together, physician and patient would answer 12 to 15 questions on a Web-accessible form; the output would be an appropriateness score for this procedure for this specific patient. If the score was in the "necessary" or "appropriate" range, physician and patient might agree to proceed with the procedure, but there would be no requirement to do so. If the results were "equivocal" or "inappropriate," physician and patient might consider a different course of action.

Following the appropriateness assessment, physician and patient would indicate on the form whether they agreed with the assessment results. Clinical justification would be required if physician and patient decided to forego a necessary procedure or to have an equivocal or inappropriate procedure. Once the form was completed, it would become part of the patient's (hopefully) electronic medical record.

This explicit approach to appropriateness would dramatically change the current way of practicing medicine, and the drivers of change would be patients and physicians. Involving patients directly in an explicit assessment of appropriateness would increase their responsibility to understand what the appropriateness ratings mean and to engage in a more meaningful discussion with their physicians about their own care. This approach would also motivate physicians to document carefully the data used to make the appropriateness decision, thereby increasing the reliability of the process used to decide whether to order an expensive diagnostic test or therapeutic procedure.

A system for assessing appropriateness could be implemented quickly. By the end of a year, appropriateness criteria for at least 10 procedures could be available, and the system could be in use by physicians around the world. At the end of 2 years, the number of covered procedures could certainly be in the 20s, and in 3 years, 30 and so on. Because the way procedures would be selected for inclusion in the system would include total unit cost, frequency of use, and effects on patients' health, the proportion of health care dollars affected by the appropriateness system could be substantial.

The system needs to be supported by both professional and consumer organizations. Academic institutions should adopt the system to ensure that residents and interns understand how to provide appropriate and necessary care. The materials produced from the system could be used as teaching materials for both health professionals and consumer groups. The proportion of care delivered for appropriate or necessary reasons in an institution could be used to publicize individual training programs and increase transparency.

Use of this method could be mandated by organizations that accredit academic training programs; the Joint Commission could include it as part of its accreditation process. Professional societies involved in recertification could use data from the system to determine whether physicians who are being recertified provide appropriate and necessary care before they are allowed to sit for a recertification examination. Data from such a system could be used to stimulate research studies for procedures judged to be equivocal to produce a better clinical evidence base. Importantly, the performance of physicians, hospitals, or organizations would need to be audited on a sample basis to make sure that the appropriateness system was being properly used.

The appropriateness assessment system is a concrete way the medical profession could respond to the need to produce more efficient and effective care. Assessment can be performed in a manner consistent with both patient and physician values and allow for patient and physician autonomy; the assessment could also increase the reliability and validity of the clinical method. Implementing the system does not require the adoption of an information technology system or reorganization of the structure of medicine. If the RUAM is used as a starting point, a system can be operationalized within a year.

Unless specific action is taken to change the clinical process, 2 decades from now policy makers, physicians, health care organizations, and the public will still be discussing health care reform and debating vague approaches to making medicine in the United States and around the world more efficient and effective.

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